

W A R N I N G

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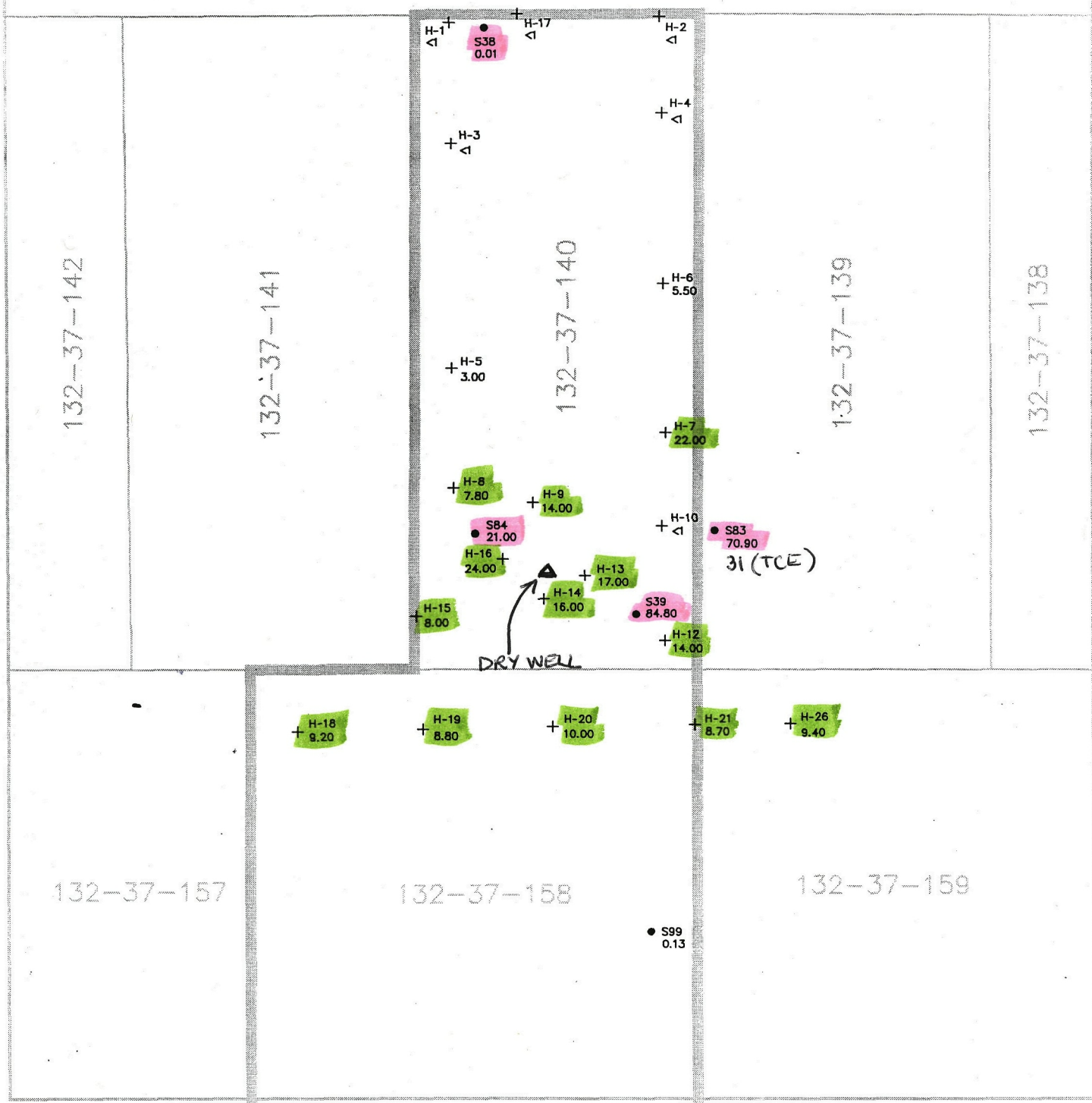
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829F4-12.DWG r12 JUNE 1997



LEGEND

- + H-5
5.50 1994 SAMPLE LOCATION & CONCENTRATION
- S60
0.05 1988 OR 1990 SAMPLE LOCATION & CONCENTRATION
- Δ DRYWELL LOCATION
- 132-38-005 PARCEL NUMBER
- SUBSITE BOUNDARY
- PARCEL BOUNDARY

NOTE: Soil Gas Contamination given in µg/l.

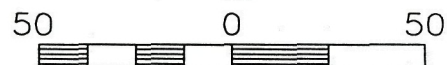


FIGURE 4-9
SUBSITE 4
PCE SOIL GAS CONCENTRATIONS
INDIAN BEND WASH - SOUTH FINAL RI

Table 4-8
Subsite 4
1994 Soil Gas Results
(µg/l)

Location	Vinyl Chloride	Dichloro-ethylene	Methylene Chloride	Chloroform	Trichloro-ethane	Trichloro-ethylene	Tetrachloro-ethylene	Benzene	Ethyl-benzene	Meta- and Para Xylenes	Ortho-Xylenes	Dichloro-difluoro-methane	Trichloro-fluoro-methane	Toluene	Bromoform
H-1	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-2	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-3	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-4	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-5	1U	1U	1U	1U	1U	1U	3	1U	1U	1U	1U	2U	5U	1U	1U
H-6	1U	1U	1U	1U	1U	1U	5.5	1U	1U	1U	1U	2U	5U	1U	1U
H-7	1U	1U	1U	1U	1U	1U	22 E / 21 D	1U	1U	1U	1U	2U	5U	1U	1U
H-8	1U	1U	1U	1U	1U	1U	7.8 JL	1U	1U	1U	1U	2U	5U	1U	1U
H-9	1U	1U	1U	1U	1U	1U	14 JL	1U	1U	1U	1U	2U	5U	1U	1U
H-10	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-12	1U	1U	1U	1U	1U	1U	14	1U	1U	1U	1U	2U	5U	1U	1U
H-13	1U	1U	1U	1U	1U	1U	17	1U	1U	1U	1U	1U	1U	1U	1U
H-14	1U	1U	1U	1U	1U	1U	16	1U	1U	1U	1U	1U	1U	1U	1U
H-15	1U	1U	1U	1U	1U	1U	8	1U	1U	1U	1U	1U	1U	1U	1U
H-16	1U	1U	1U	1U	1U	1U	24 E / 22 D	1U	1U	1U	1U	1U	1U	1U	1U
H-17	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	2U	5U	1U	1U
H-18	1U	1U	1U	1U	1U	1U	9.2	1U	1U	1U	1U	2U	5U	1U	1U
H-19	1U	1U	1U	1U	1U	1U	8.8	1U	1U	1U	1U	1U	1U	1U	1U
H-20	1U	1U	1U	1U	1U	1U	10	1U	1U	1U	1U	1U	1U	1U	1U
H-21	1U	1U	1U	1U	1U	1U	8.7	1U	1U	1U	1U	1U	1U	1U	1U
H-26	1U	1U	1U	1U	1U	1U	9.4	1U	1U	1U	1U	1U	1U	1U	1U

Notes

U = Undetected, the value represents the limit of detection
E = The calculated concentration for an analyte exceeded the linear calibration range, possibly producing an artificially low result
D = The analyte was quantitated from a secondary dilution of the sample or sample extract
JL = Estimated Value The analyte in the laboratory control sample exceeded the percent recovery 70%

Table 4-7
 Subsite 4
 1988 Soil Gas Results
 (µg/l)

Location	Chloroform	Methylene Chloride	Vinyl Chloride	Dichloro-ethylene	Trichloro-ethane	Trichloro-ethylene	Tetrachloro-ethylene	Benzene	Toluene	Ethylbenzene	Meta- and Para-Xylenes	Ortho-Xylenes	Methane
S38	0.01 U	0.01 U	0.01 U	0.04	0.01 U	0.40	0.01	0.02	0.01 U	0.01	0.11	0.01 U	0.01 U
S39	0.01 U	0.01 U	0.01 U	3.03	58.70	1.10	84.80	0.02	0.06	0.02	0.06	0.08	0.01 U
S83	0.01 U	0.01 U	0.01 U	0.88	14.70	31.00	70.90	0.01	0.01	0.01 U	0.01 U	0.01	0.01 U
S84	0.01 U	0.01 U	0.01 U	3.15	33.90	0.01 U	21.00	0.02	0.03	0.01	0.02	0.01	0.01 U
S99	0.01 U	0.01 U	0.06	0.26	0.05	0.10	0.13	0.39	0.49	0.31	0.42	0.34	14.90
S100	0.01 U	0.01 U	0.01 U	0.05	0.01 U	0.01	0.02	0.29	0.40	0.33	0.30	0.55	3.05

Note: U = Undetected, the value represents the limit of detection

PCE appears to be the predominant VOC present in soil gas at Subsite 4. Although several samples collected in 1988 indicate the presence of TCE and TCA, neither compound was detected in samples collected in 1994. Figure 4-9 shows the distribution of PCE in the soil gas at Subsite 4. Tables 4-7 and Table 4-8 present the soil gas data for 1988 and 1994, respectively. Samples were not collected at Subsite 4 in 1990.

Nineteen samples collected and analyzed at Subsite 4 exceeded a PCE concentration of 1 µg/l, five samples exceeded 20 µg/l. In general, the PCE concentrations appear to have been higher in 1988 than in 1994. The majority of the PCE contamination appears to occur south of the Circuit Express building in the vicinity of the dry well. Sample S-39, collected in 1988, exhibited the highest PCE concentration at 85 µg/l. In 1994 the concentrations seemed to be more uniform with the highest concentration (24 µg/l) occurring near the dry well in Sample H-16.

In 1988, TCE was detected in Samples S-39 and S-83 at concentrations of 11 µg/l and 31 µg/l, respectively. During that same sampling event, TCA was detected in Samples S-39, S-83, and S-84 at concentrations of 59 µg/l, 15 µg/l, and 34 µg/l, respectively. Neither TCE nor TCA was detected in samples collected during 1994.

Subsite 5

Subsite 5 consists of the former DCE Circuits facility located at 1310 E Eighth Street in the northeast quarter of Section 23. The individual PPI for DCE Circuits can be found in Appendix S. In addition, a Focused RI has been performed at DCE Circuits (EPA, 1994). The Focused RI report completely addresses the nature and extent of soil gas contamination at Subsite 5 and is therefore not repeated in this RI.

TCE and PCE are the predominant VOCs in soil gas at Subsite 5. Figures 4-10 and 4-11 show the distribution of TCE and PCE at Subsite 5, respectively. Table 4-9 presents the soil gas data for 1988 and 1990. Table 4-10 presents the soil gas data for 1992 collected as part of the Focused RI.

Subsite 6

Subsite 6 consists of the IMC Magnetics Corporation (IMC), Arizona Electrical Products, Inc., Service and Sales, Inc., and Arizona Imports facilities located in the southwest quarter of Section 13. The individual PPIs for each of these facilities can be found in Appendix S. Soil gas contours for TCE, PCE, DCE, and TCA are presented in Appendix R, Plates R-4. In addition, numerous reports presenting data collected by IMC as part of their Focused RI are available in the site repository and EPA and ADEQ files.

TCE and TCA appear to be the predominant VOCs in soil gas at Subsite 6. Figures 4-12 and 4-13 show the distribution of TCE and TCA at Subsite 6, respectively. Table 4-11 presents the soil gas data for 1988 and 1990. Table 4-12 presents the soil gas data collected

Subsite 3

Subsite 3 includes Eldon Drapery Cleaners, Silver Streak, Inc., and Arizona Jacobson Co (AJC) facilities located in the southwest quarter of Section 13. The individual PPIs for each of these facilities can be found in Appendix S. In addition, contour maps for TCE, PCE, DCE, and TCA soil gas results are presented in Appendix R, Plates R-4.

PCE, TCA, and TCE appear to be the predominant VOCs in soil gas at Subsite 3. Figures 4-6, 4-7, and 4-8 show the distribution of PCE, TCA, and TCE at Subsite 3, respectively. Table 4-5 presents the soil gas data for 1988 and 1990, and Table 4-6 presents the soil gas data for 1994. Soil gas samples were not collected at the AJC facility prior to 1994.

Fifty of the samples collected and analyzed at Subsite 3 exceeded a PCE concentration of 1 µg/l. Eleven samples exceeded 100 µg/l. The highest PCE levels appear to be centered in and around the Eldon Drapery Cleaners building where PCE is used in the dry cleaning process. Samples L-33 and L-31 exhibited the highest PCE concentrations at 2,350 µg/l and 2,300 µg/l, respectively. These concentrations exceeded the instrument capability, actual concentrations were likely higher than those measured. Sample L-33 was collected inside the building near a floor drain located behind the dry cleaning machine, and Sample L-31 was collected near the large doorway into the dry cleaning production area.

Forty-nine of the samples collected and analyzed at Subsite 3 exceeded a 1,1,1-TCA concentration of 1 µg/l. Four samples, all of which were collected in 1990, exceeded 100 µg/l. Sample SS-2 collected in 1990 exhibited the highest TCA concentration at 280 µg/l. The magnitude and distribution of TCA appear to vary with time. In 1988, seven samples were analyzed for TCA, and all were detected at values less than 1 µg/l. In 1990, 12 samples were analyzed for TCA. Of these, 10 samples exceeded 25 µg/l, and four exceeded 100 µg/l. Several of these sample points were very close to 1988 sample locations. In 1994, 82 samples were analyzed for TCA, and 38 contained TCA above the detection limit of 1 µg/l, however, no detections above 10 µg/l were made.

Seventeen of the samples collected and analyzed at Subsite 3 exceeded a TCE concentration of 1 µg/l. Samples D-3 and D-22 located on the AJC property exhibited the highest concentrations at 54 µg/l and 30 µg/l, respectively. Eight samples collected along the east side and to the north of the Silver Streak, Inc., building contained elevated levels of TCE ranging from 3 µg/l to 17 µg/l.

Subsite 4

Subsite 4 consists of the former Circuit Express facility located at 2149 E. Fifth Street in the southeast quarter of Section 13. The individual PPI for Circuit Express can be found in Appendix S. In addition, contour maps for TCE, PCE, DCE, and TCA are presented in Appendix R, Plates R-5.

and S84) were around the dry well that had received industrial wastewater. Maximum concentrations were TCA 58.7 µg/l, TCE 31 µg/l, DCE 3.15 µg/l, and PCE 84.8 µg/l. The other VOC concentrations were less than 1 µg/l. These solvents may be related to the possible disposal of VOCs to the closed dry well located to the south end of the building. These data have been validated, and quality assurance/quality control data are available.

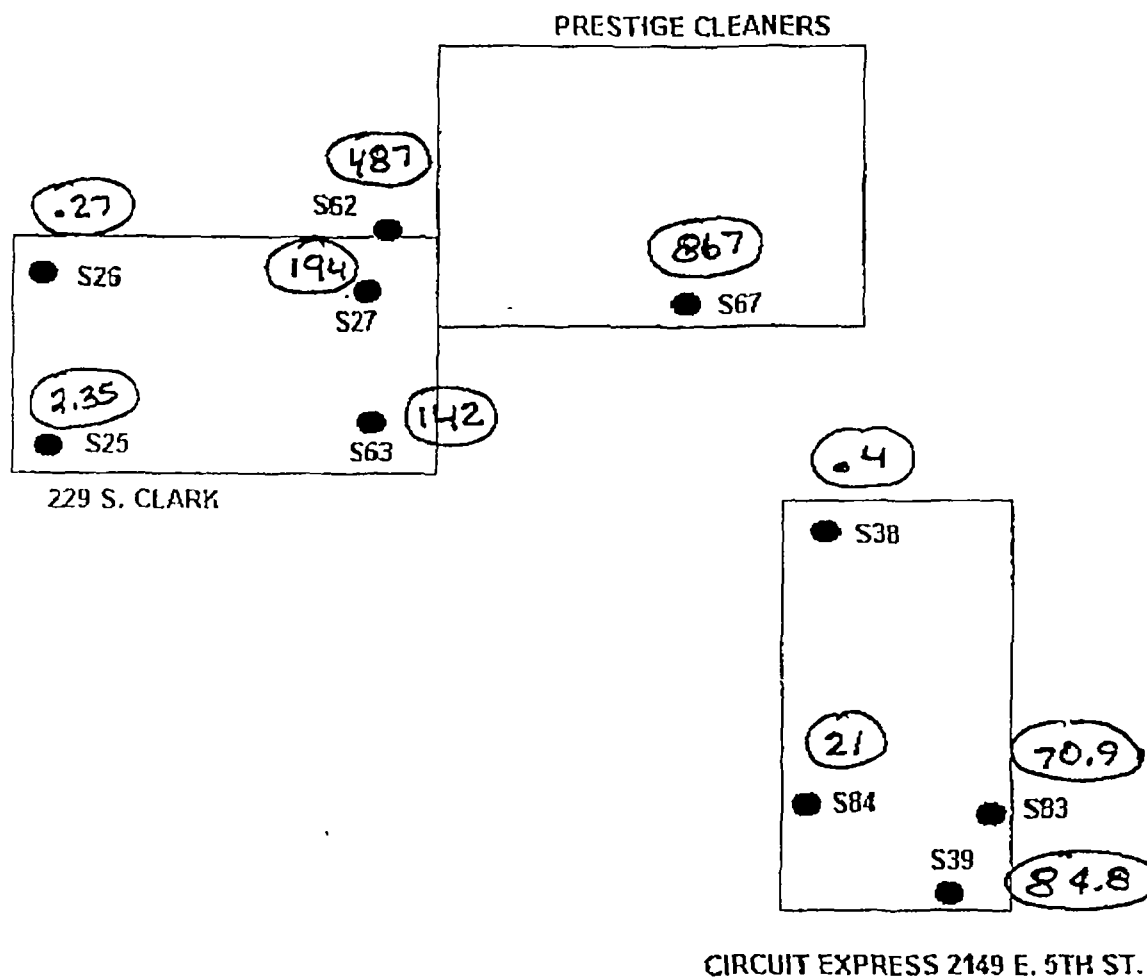
Table 4 Results of the 1988 Soil Gas Sampling At The Circuit Express Facility					
Compound	Sampling Location				
	S38	S39	S83	S84	S99
Vinyl Chloride	0.01U	0.01U	0.01U	0.01U	0.06
1,1-Dichloroethene	0.04	3.03	0.88	3.15	0.26
1,1,1-Trichloroethane	0.01U	58.70	14.70	33.90	0.05
Trichloroethene	0.40	1.10	31.00	0.01U	0.10
Perchloroethene	0.01U	84.80	70.90	21.00	0.13
Benzene	0.02	0.02	0.01	0.02	0.39
Toluene	0.01U	0.06	0.01	0.03	0.49
Ethylbenzene	0.01	0.02	0.01U	0.01	0.31
Meta- and Para-Xylenes	0.11	0.06	0.01U	0.02	0.42
Ortho Xylenes	0.01U	0.08	0.01	0.01	0.34
Methane	0.01U	0.01U	0.01U	0.01U	14.9
Note U = Compound was not detected above the concentration listed					

CONCLUSIONS

Electronic Circuitry Manufacturing's past disposal practices of disposing copper process wastewater solutions into the dry well along with the amount and type of chemicals that are normally used in circuit board manufacturing indicate that the potential for subsurface contamination exists. The results of the 1988 soil gas sampling indicate that the subsurface is contaminated with chlorinated solvents.

ADDITIONAL DATA REQUIREMENTS

The analytical results of the 1988 soil gas sampling indicate that there may be subsurface contamination present at the Circuit Express facility. Additional data collection will be necessary to delineate the vertical and horizontal extent of the contamination and to assess the potential impacts to groundwater. The amount of copper and



PCE N8/L 1988

RATING
LOCATION
SITE CODE
VNNYL CHLORIDE
1,1-DCE
1,1,1-TCA
TCE
PCE
BENZENE
TOLUENE
ETAYBENZENE
META & PARA - XYLENES
ORTHO - XYLENES
METHANE

229 S CLARK DR.				PRESTIGE CLEANERS	
ND	1-10	100-500	100-500	100-500	100-500
NW	SW	NE IN PARKING LOT	SE IN DRIVE	BEHIND DUMPSTER	NE OF OUR BLDG
<u>S26</u>	<u>S25</u>	<u>S27</u>	<u>S63</u>	<u>S62</u>	<u>S67</u>
ND	ND	ND	ND	ND	ND
ND	ND	ND	0.25	ND	0.02
ND	0.03	0.02	26.10	ND	0.79
ND	ND	0.25	0.27	0.22	8.22
0.27	2.38	194	142.00	487	867.00
ND	ND	ND	0.02	0.01	0.14
0.33	0.05	0.03	0.02	0.05	0.07
0.07	0.01	0.02	ND	0.01	0.050
0.21	0.04	ND	0.01	0.07	ND
0.62	0.55	0.01	0.02	0.02	ND
0.7	0.6	1.3	ND	ND	ND

RATING
LOCATION
SITE CODE
VNNYL CHLORIDE
1,1-DCE
1,1,1-TCA
TCE
PCE
BENZENE
TOLUENE
ETAYBENZENE
META & PARA - XYLENES
ORTHO - XYLENES
METHANE

2149 E. 5TH ST.			
ND	10-100	10-100	10-100
NW	SW	S MIDDLE OF PARKING LOT	SE
<u>S38</u>	<u>S84</u>	<u>S39</u>	<u>S83</u>
ND	ND	ND	ND
ND	3.15	3.03	0.88
0.04	33.9	58.7	14.7
ND	ND	1.1	31
0.4	21	84.8	70.9
0.01	0.02	0.02	0.01
0.02	0.03	0.06	0.01
ND	0.01	0.02	ND
0.01	0.02	0.06	ND
0.11	0.01	0.08	0.01
ND	ND	ND	ND

X